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PATENT & TRADEMARK OFFICE

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Ken Miyagawa, et al.
Serial No. : 09/607,336
Filed : June 30, 2000
Title : BLOCK FORMING METHOD AND APPARATUS OF DIGITAL BIT STREAM

Art Unit : 2771
Examiner : Unknown

Attention: Official Draftsman
Commissioner for Patents
Washington, D.C. 20231

TRANSMITTAL OF FORMAL DRAWINGS

Please substitute the enclosed fourteen (14) sheets of formal drawings for the corresponding drawings presently in the application.

Please apply any charges or credits to Deposit Account No. 06-1050.

Respectfully submitted,

Date: October 20, 2000

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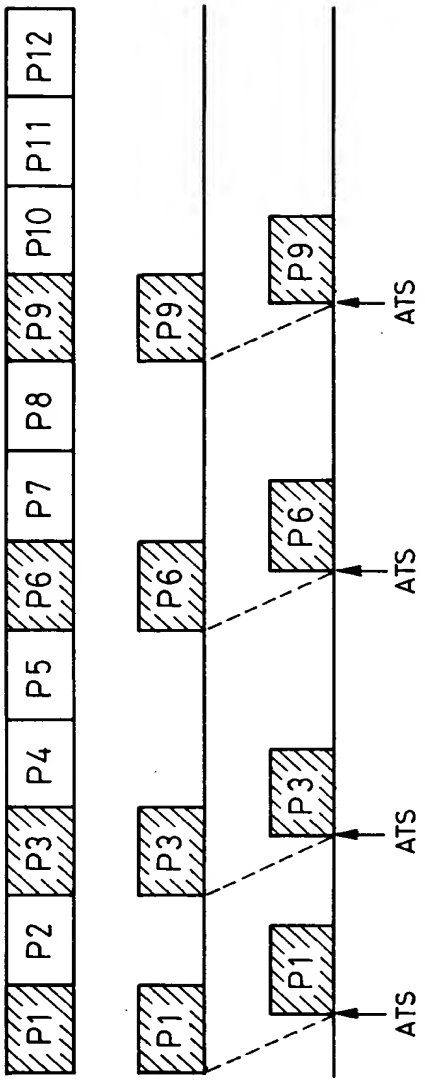


FIG.1A

FIG.1B

FIG.1C

FIG. 2

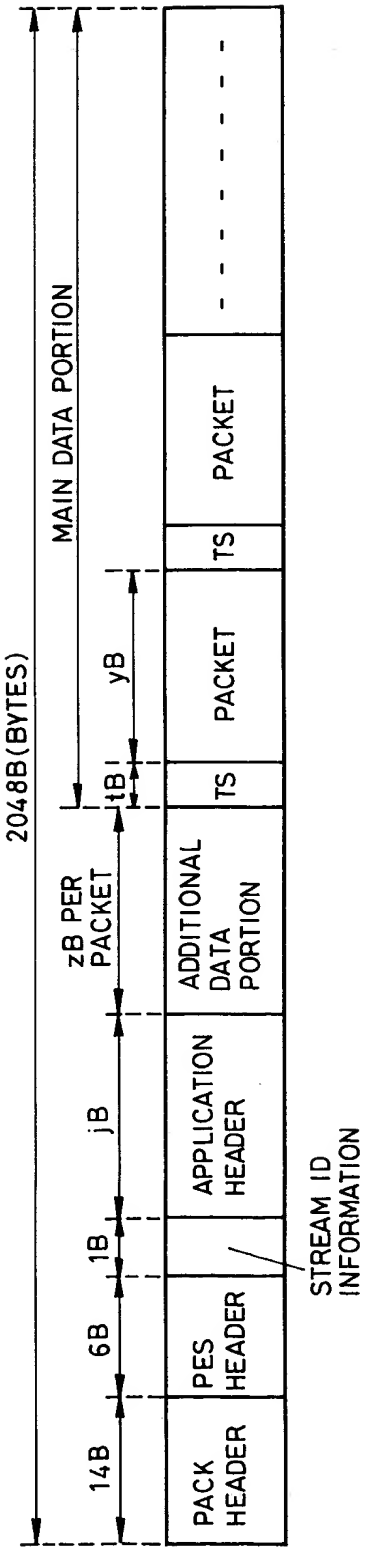

2048B(BYTES)
MAIN DATA PORTION
zB PER PACKET
14B
6B
1B
jB
1B
yB
tB
PACK HEADER
PES HEADER
APPLICATION HEADER
ADDITIONAL DATA PORTION
TS
PACKET
STREAM ID INFORMATION

FIG. 3

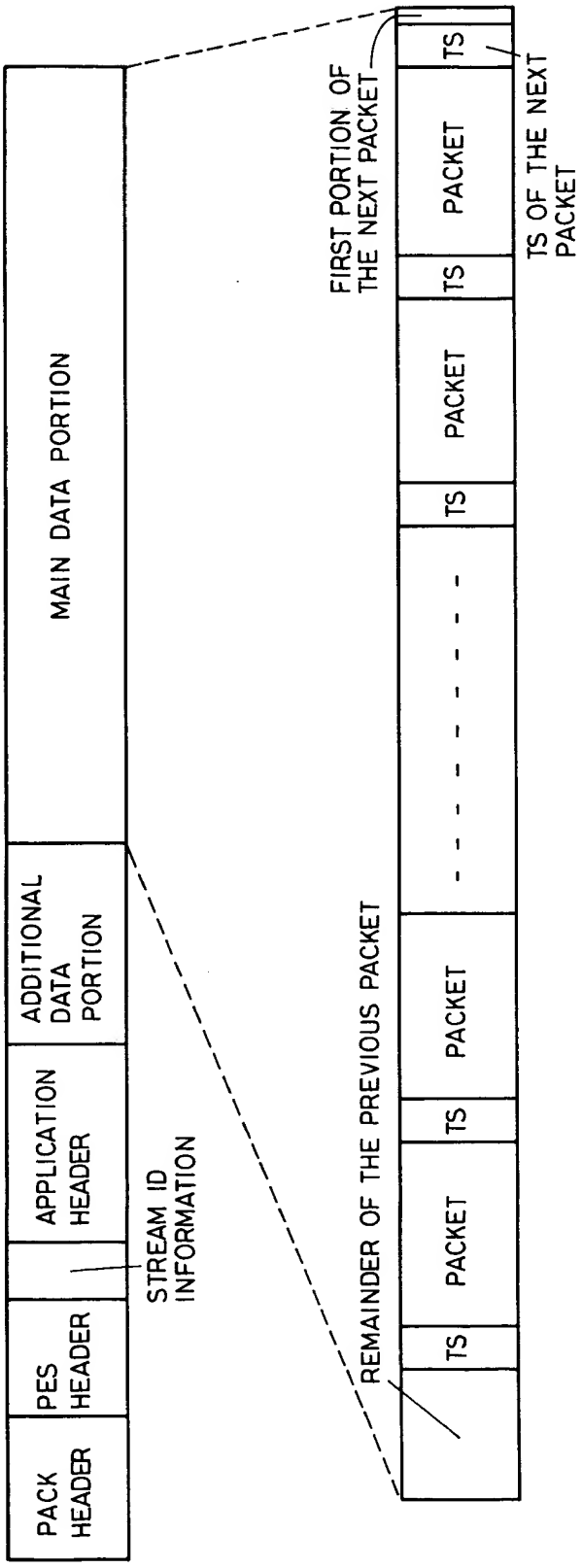

MAIN DATA PORTION
PACK HEADER
PES HEADER
APPLICATION HEADER
ADDITIONAL DATA PORTION
STREAM ID INFORMATION
REMAINDER OF THE PREVIOUS PACKET
FIRST PORTION OF THE NEXT PACKET
TS OF THE NEXT PACKET
TS
PACKET

FIG. 4

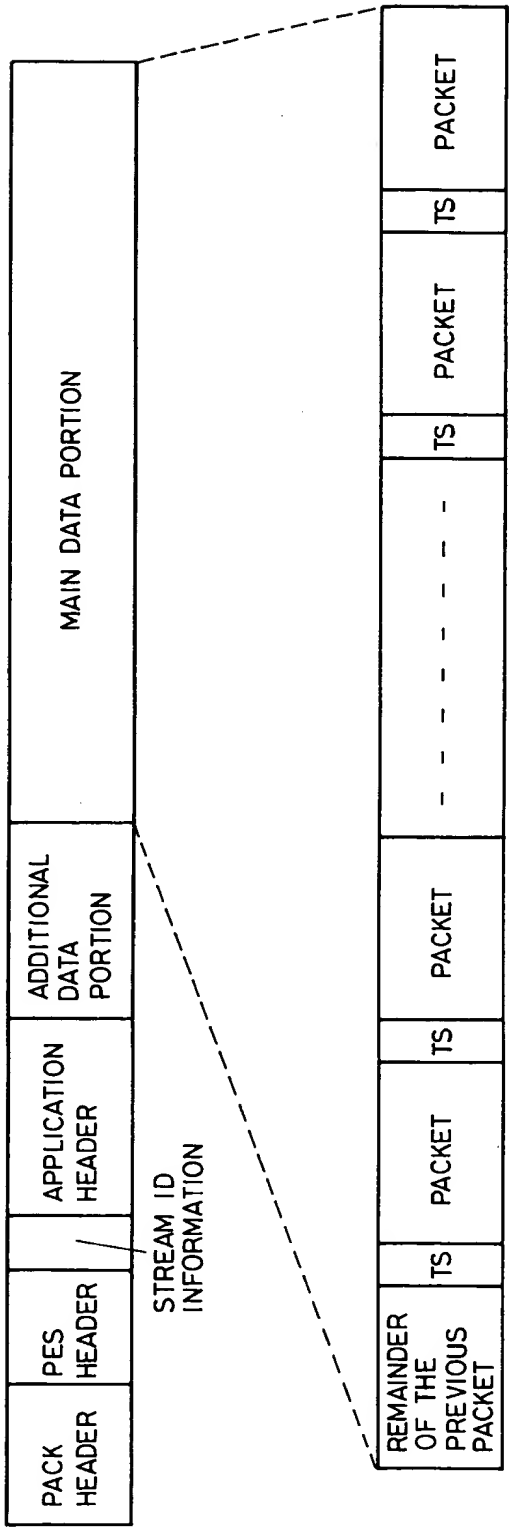

PACK HEADER
PES HEADER
APPLICATION HEADER
ADDITIONAL DATA PORTION
MAIN DATA PORTION
STREAM ID INFORMATION
REMAINDER OF THE PREVIOUS PACKET
TS
PACKET
TS
PACKET
TS
PACKET
TS
PACKET

FIG.5

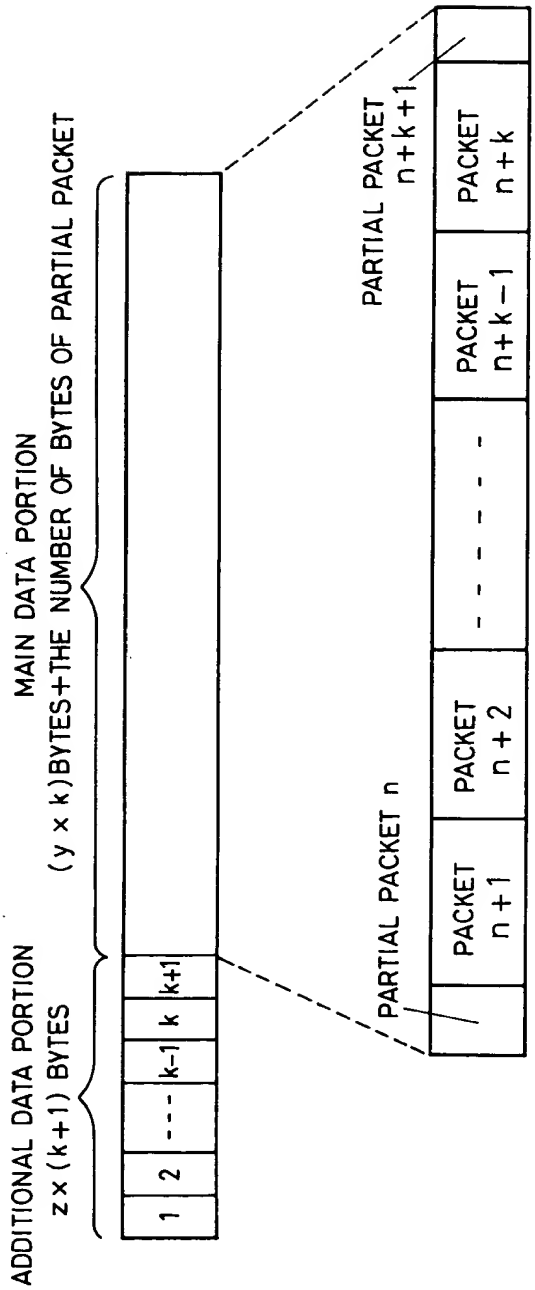

ADDITIONAL DATA PORTION
z x (k+1) BYTES
MAIN DATA PORTION
(y x k)BYTES+THE NUMBER OF BYTES OF PARTIAL PACKET
1
2
---
k-1
k
k+1
PARTIAL PACKET n
PACKET n+1
PACKET n+2
- - - - - - -
PACKET n+k-1
PACKET n+k
PARTIAL PACKET n+k+1

FIG. 6

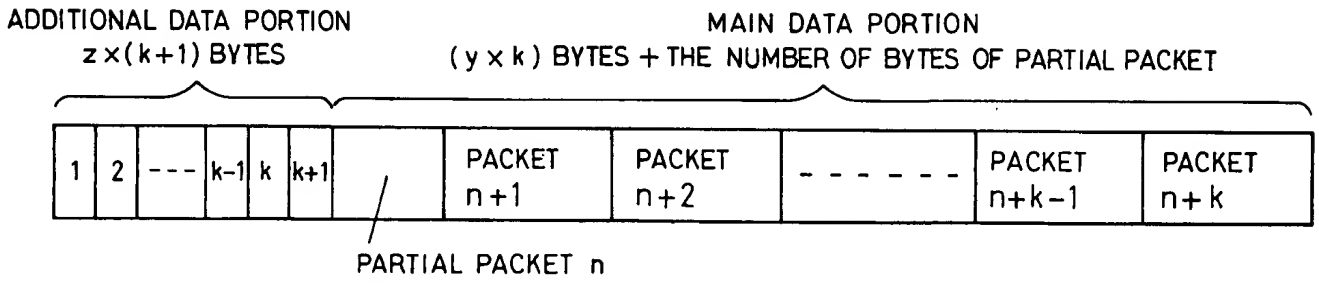

ADDITIONAL DATA PORTION
z×(k+1) BYTES
MAIN DATA PORTION
(y×k) BYTES + THE NUMBER OF BYTES OF PARTIAL PACKET
1
2
---
k-1
k
k+1
PACKET n+1
PACKET n+2
- - - - - -
PACKET n+k-1
PACKET n+k
PARTIAL PACKET n

FIG. 7

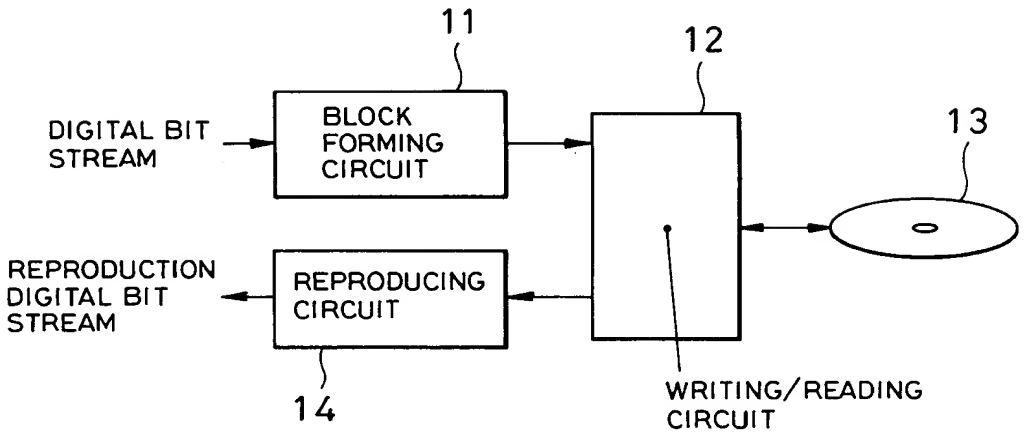

11
12
13
DIGITAL BIT STREAM
BLOCK FORMING CIRCUIT
REPRODUCTION DIGITAL BIT STREAM
REPRODUCING CIRCUIT
14
WRITING/READING CIRCUIT

FIG.8

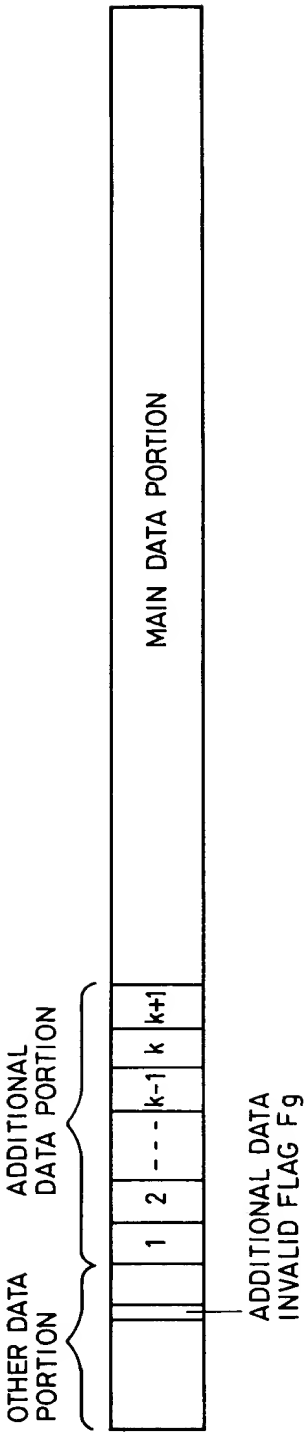

MAIN DATA PORTION
ADDITIONAL DATA PORTION
OTHER DATA PORTION
1
2
- - -
k-1
k
k+1
ADDITIONAL DATA INVALID FLAG Fg

FIG. 9

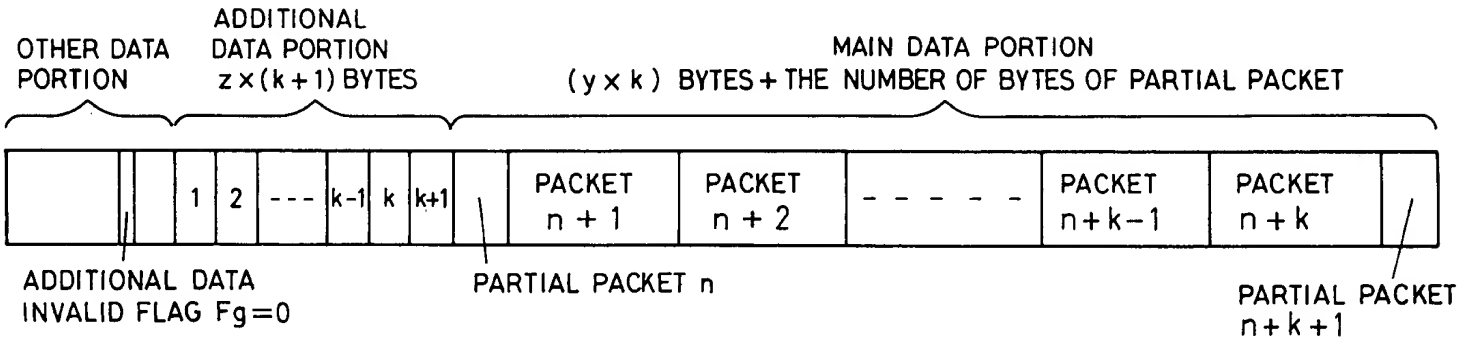

OTHER DATA PORTION
ADDITIONAL DATA PORTION z × (k+1) BYTES
MAIN DATA PORTION (y × k) BYTES + THE NUMBER OF BYTES OF PARTIAL PACKET
1
2
---
k-1
k
k+1
PACKET n + 1
PACKET n + 2
- - - - -
PACKET n+k-1
PACKET n+k
ADDITIONAL DATA INVALID FLAG Fg=0
PARTIAL PACKET n
PARTIAL PACKET n+k+1

FIG. 11

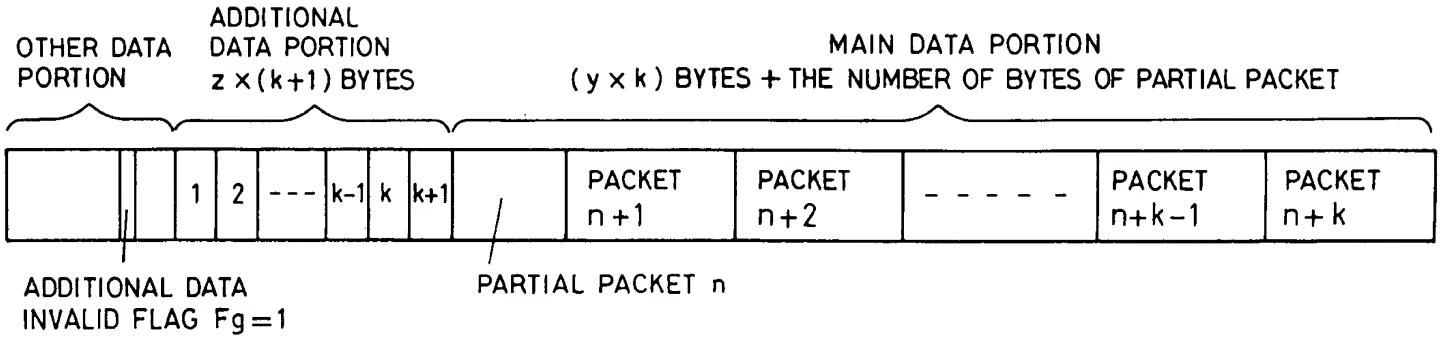

OTHER DATA PORTION
ADDITIONAL DATA PORTION z × (k+1) BYTES
MAIN DATA PORTION (y × k) BYTES + THE NUMBER OF BYTES OF PARTIAL PACKET
1
2
---
k-1
k
k+1
PACKET n+1
PACKET n+2
- - - - -
PACKET n+k-1
PACKET n+k
ADDITIONAL DATA INVALID FLAG Fg=1
PARTIAL PACKET n

FIG.10

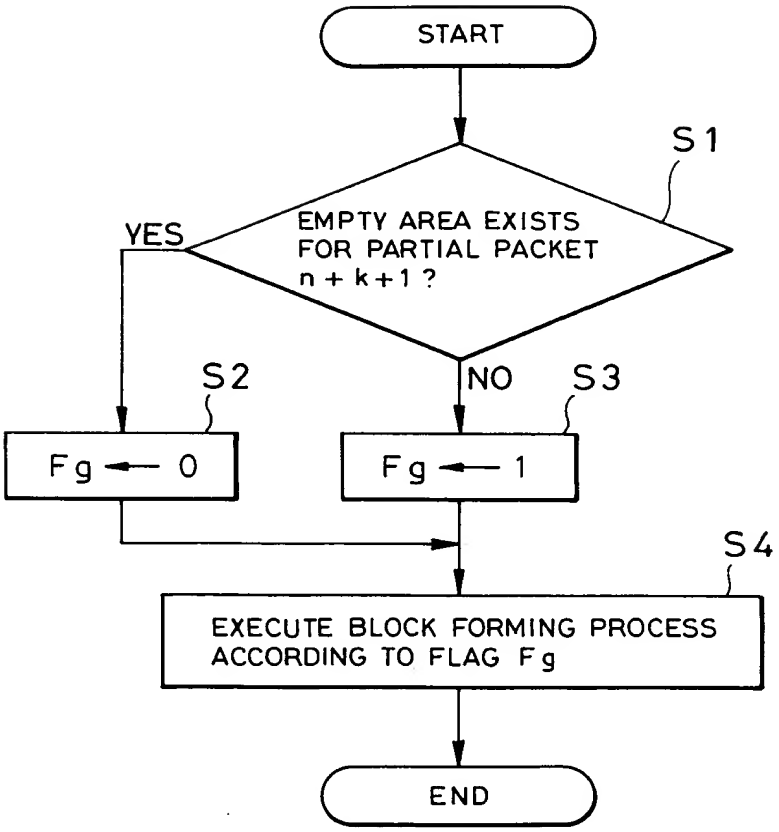

START
S1
EMPTY AREA EXISTS FOR PARTIAL PACKET n + k+1 ?
YES
NO
S2
S3
Fg ← 0
Fg ← 1
S4
EXECUTE BLOCK FORMING PROCESS ACCORDING TO FLAG Fg
END

FIG.12

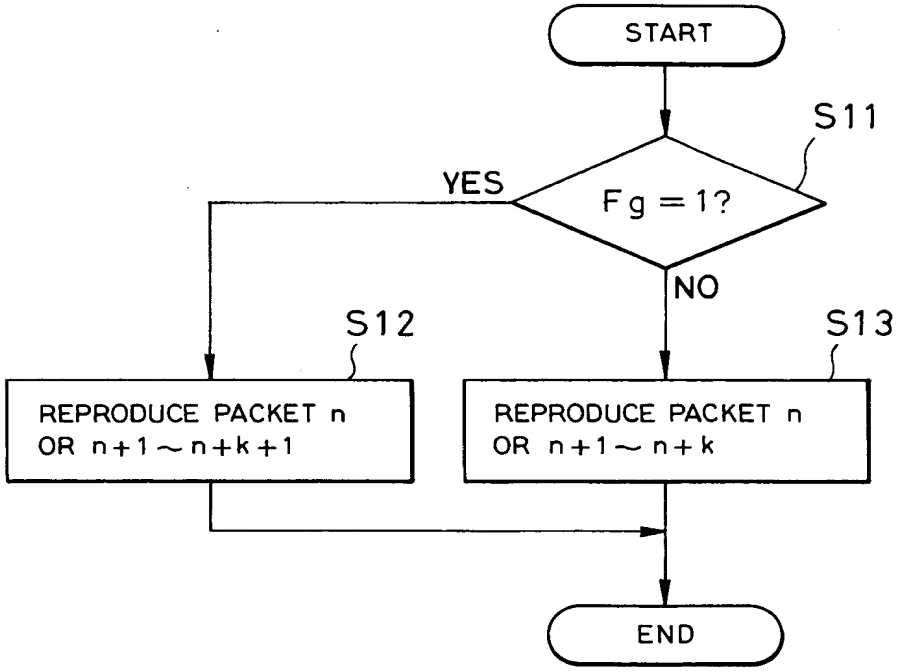
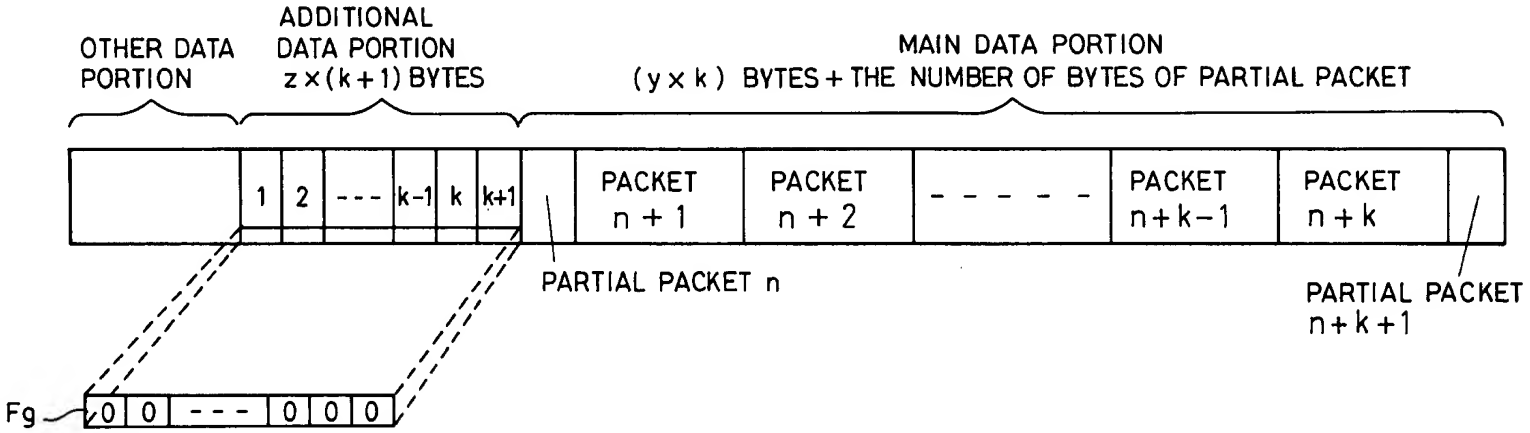
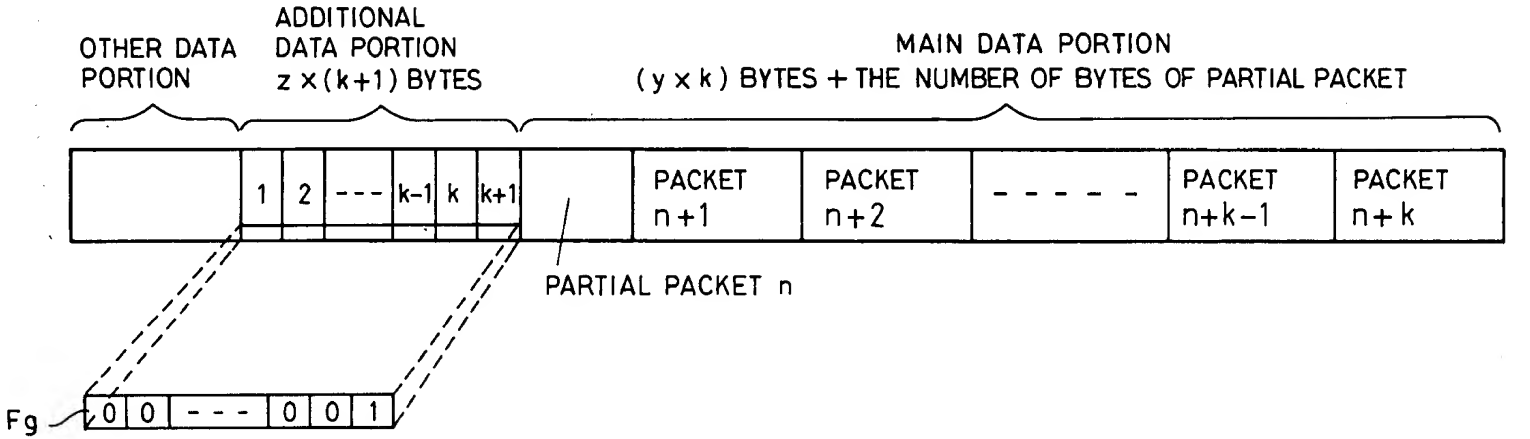

START
S11
Fg = 1?
YES
NO
S12
S13
REPRODUCE PACKET n
OR n+1 ~ n+k+1
REPRODUCE PACKET n
OR n+1 ~ n+k
END

FIG.13


OTHER DATA PORTION
ADDITIONAL DATA PORTION z × (k+1) BYTES
MAIN DATA PORTION
(y × k) BYTES + THE NUMBER OF BYTES OF PARTIAL PACKET
1
2
---
k-1
k
k+1
PACKET n + 1
PACKET n + 2
- - - - -
PACKET n+k-1
PACKET n+k
PARTIAL PACKET n
PARTIAL PACKET n+k+1
Fg
0
0

0
0
0

FIG.14


OTHER DATA PORTION
ADDITIONAL DATA PORTION z × (k+1) BYTES
MAIN DATA PORTION
(y × k) BYTES + THE NUMBER OF BYTES OF PARTIAL PACKET
1
2
---
k-1
k
k+1
PACKET n+1
PACKET n+2
- - - - -
PACKET n+k-1
PACKET n+k
PARTIAL PACKET n
Fg
0
0

0
0
1

FIG.15

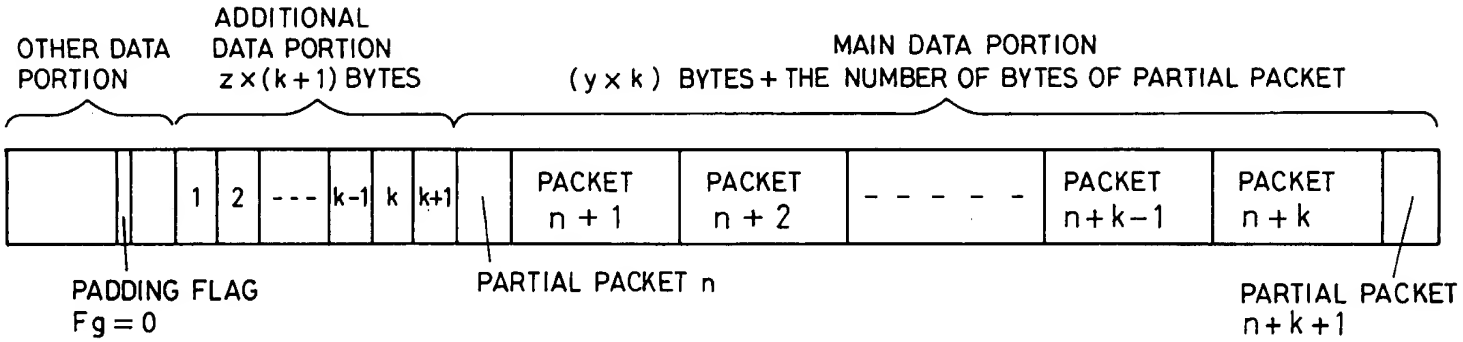

OTHER DATA PORTION
ADDITIONAL DATA PORTION z×(k+1) BYTES
MAIN DATA PORTION (y×k) BYTES + THE NUMBER OF BYTES OF PARTIAL PACKET
1
2
---
k-1
k
k+1
PACKET n+1
PACKET n+2
- - - - -
PACKET n+k-1
PACKET n+k
PADDING FLAG Fg=0
PARTIAL PACKET n
PARTIAL PACKET n+k+1

FIG.16

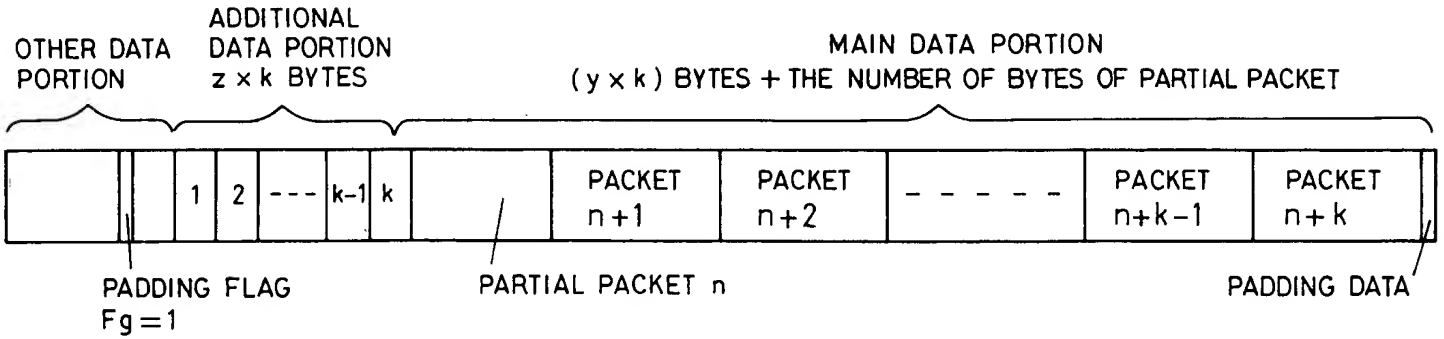

OTHER DATA PORTION
ADDITIONAL DATA PORTION z×k BYTES
MAIN DATA PORTION (y×k) BYTES + THE NUMBER OF BYTES OF PARTIAL PACKET
1
2
---
k-1
k
PACKET n+1
PACKET n+2
- - - - -
PACKET n+k-1
PACKET n+k
PADDING FLAG Fg=1
PARTIAL PACKET n
PADDING DATA

FIG.17

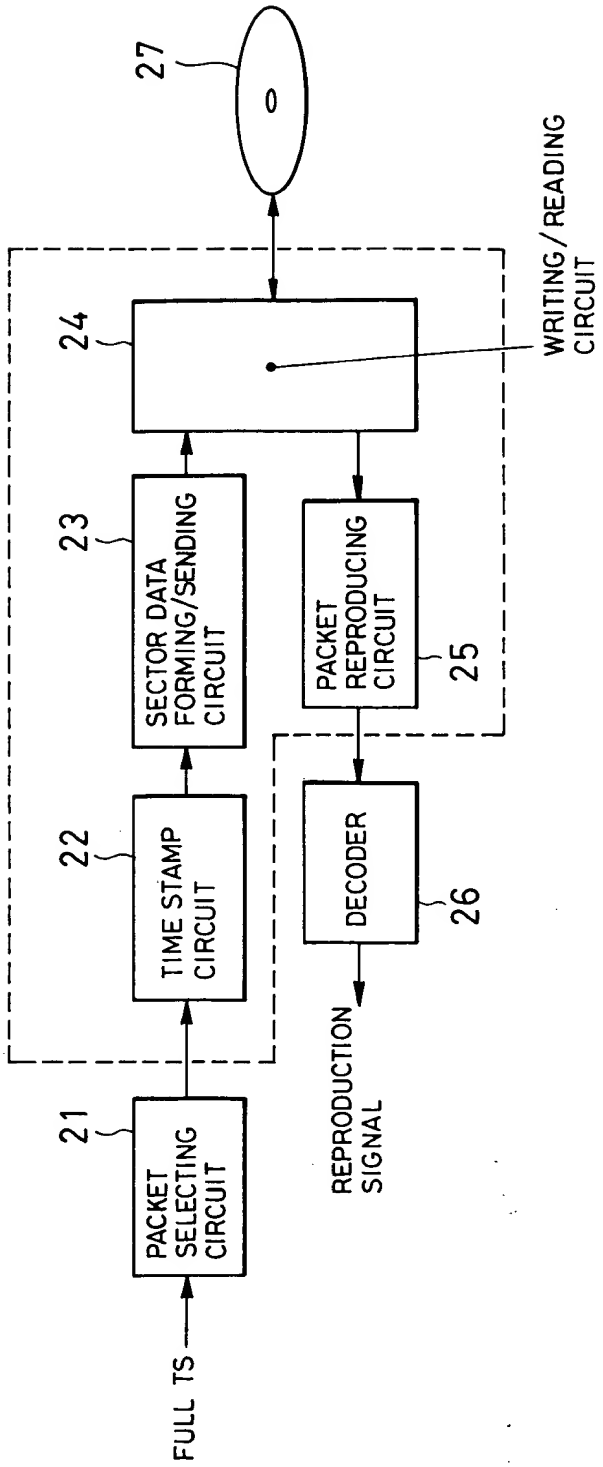
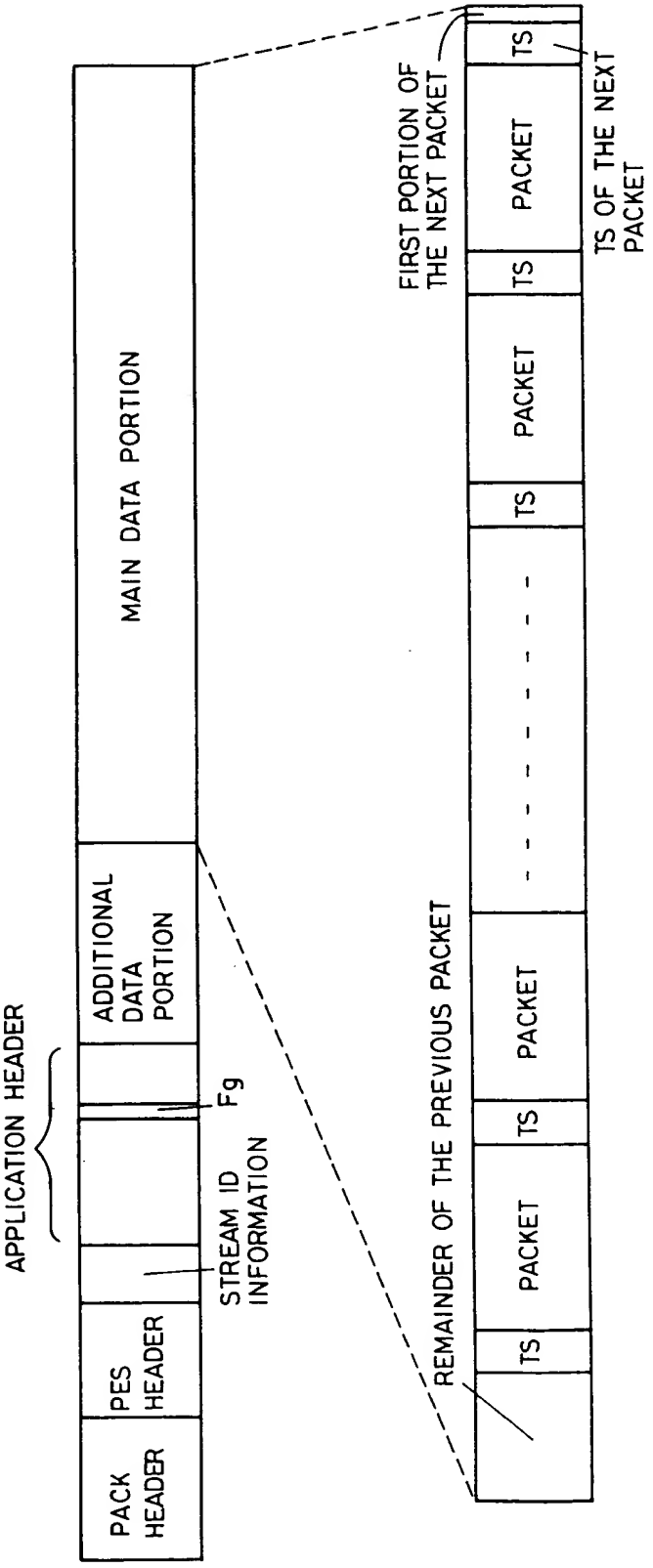

27
0
WRITING/READING CIRCUIT
24
23
SECTOR DATA FORMING/SENDING CIRCUIT
22
TIME STAMP CIRCUIT
21
PACKET SELECTING CIRCUIT
FULL TS
PACKET REPRODUCING CIRCUIT
25
DECODER
26
REPRODUCTION SIGNAL

FIG.18


PACK HEADER
PES HEADER
APPLICATION HEADER
STREAM ID INFORMATION
ADDITIONAL DATA PORTION
Fg
MAIN DATA PORTION
REMAINDER OF THE PREVIOUS PACKET
TS
PACKET
FIRST PORTION OF THE NEXT PACKET
TS OF THE NEXT PACKET